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10/052,678	01/18/2002	James W. Moore	5557.P007	5448

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EXAMINER

SANDERS, ALLYSON N

ART UNIT

PAPER NUMBER

2876

DATE MAILED: 08/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/052,678

Applicant(s)

MOORE ET AL.

Examiner

Allyson N Sanders

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on June 2, 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18-28 is/are allowed.
- 6) ☒ Claim(s) 1-9, 14-17, 29-37 and 42-45 is/are rejected.
- 7) ☒ Claim(s) 10-13 and 38-41 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### ***Amendment***

1. Receipt is acknowledged of the Amendment filed June 2, 2003.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-4, 14, 15, 16, 29-32, and 42-44, are rejected under 35 U.S.C. 102(e) as being anticipated by Bjorner et al (6,236,735).

Regarding claim 1, a method, comprising: receiving a trigger signal communicated from a triggering device in response to a location of a component in an automated identification system; capturing multiple images of at least a portion of a surface of the component in response to the trigger signal, the multiple images comprising a series of images including a first two-dimensional image and at least one subsequent two-dimensional image; and processing the multiple images to identify and

read a symbol code, if any, contained within at least one or a combination of two or more of the multiple images is disclosed.

Bjorner et al teaches the following in regards to claims 1-4, 14, 15, 16, 29-32, and 42-44:

“The present invention relates to image processing, and more particularly relates to over-the-belt optical character recognition systems. Specifically, the present invention relates to a two camera system for reading the destination address on packages moving along a conveyor.” (Col. 1, lines 17-21).

“The present invention meets the above objectives by providing a two camera system for reading indicia on conveyed items. The preferred embodiment is an over-the-belt OCR system for reading the destination addresses on parcels carried on a conveyor belt. The parcels bear an orientation defining fluorescent ink fiduciary mark that is typically stamped on the parcel in the same area as the destination address. The fiduciary mark is located approximately in the center of the destination address block and oriented in the same direction as the underlying destination address. The first camera, a low resolution CCD camera, captures an image of the fiduciary mark. A host computer stores an image of the fiduciary mark, determines the position and orientation of the fiduciary mark, and defines a region of interest about the fiduciary mark. The second camera, a high resolution CCD camera, captures a grey-scale image of the conveyor and the parcels carried on the conveyor. The host computer extracts and stores the portion of the high resolution image that is within the region of interest including the text defining the destination address of the parcel. The host computer

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then rotates and displays the rotated text image and/or transmits the text image to a text reader." (Cols. 3 and 4, lines 65-20).

"Although the preferred embodiment of the present invention is described in the context of an over-the-belt OCR system using a fluorescent ink fiduciary mark, those skilled in the art will appreciate that the principles of the present invention may be applied to many other contexts in which a two camera system can read indicia on a substrate.

Generally described, the present invention is a method and system for reading indicia on a substrate. A first image of the substrate is captured with a first camera system, and the first image is stored in a computer memory. The position of a predefined mark within the first image is determined, and a region of interest is defined in association with the mark. A second image of the substrate is then captured with a second camera system, and the portion of the second image that is within the region of interest is stored in a computer memory. In this manner, the host computer only stores data from the second camera for the area within the region of interest." (Col. 4, lines 21-37).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 5-9 and 33-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bjorner et al (6,236,735) in view of Moed et al (5,770,841).

Bjorner et al's teachings are discussed above.

Bjorner et al fails to teach the following: a user-specified delay with a defined duration preceding capturing the first image, capturing each successive image in the series of images following a user-specified interval having a defined duration, the defined duration of the user-specified interval being equal to zero, and lastly, the defined duration of the user-specified interval corresponding to each successive image in the series of images being identical.

Regarding claim 5, the method of claim 1, wherein a user-specified delay precedes capturing the first image, the user-specified delay having a defined duration is disclosed.

"The packages are separated by a device known as a singulator. A suitable singulator is described in U.S. Pat. No. 5,372,238 to Bonnet, entitled 'Method and Apparatus for Singularizing Objects.'" (Col. 6, lines 16-19).

"The conveyor belt 18 includes a belt encoder 44 that is used to determine the speed and position the associated conveyor belt." (Col. 6, lines 20-22). Singulators separate packages and delay each package for reading until the preceding package has been read.

Regarding claim 6, the method of claim 1, wherein capturing each successive image in the series of images follows a user-specified interval having a defined duration is disclosed.

"The conveyor belt system is used to transport packages through a terminal facility. In the preferred system 10, the conveyor belt 18 is 16 inches wide and carries up to 3,600 packages per hour while moving at a rate of up to 100 feet per minute. The packages 20a-c vary in height and may be arbitrarily oriented on the conveyor belt 18. The conveyor belt 18 moves each package beneath the fiducial mark detector 24 and high resolution camera 16 in single file, and with some amount of space between them." (Col. 6, lines 8-16).

Regarding claim 7, the method of claim 6, wherein the defined duration of the user-specified interval equals zero is disclosed.

See Moed et al's teachings in regards to claim 6. Packages can flow at a constant speed.

Regarding claim 8, the method of claim 6, wherein the defined duration of the user-specified interval corresponding to each successive image in the series of images is identical is disclosed.

See Moed et al's teachings in regards to claim 6. Packages can flow at a constant speed.

Regarding claim 9, the method of claim 6, wherein the defined duration of the user-specified interval corresponding to each successive image in the series of images is distinct is disclosed.

See Moed et al's teaching in regards to claim 5. The singulators separate packages and delay each package for reading until the preceding package has been read.

In view of Moed et al's teaching, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to employ the display and the user-specified intervals taught by Moed et al to the teachings of Addy. One would be motivated to do so in order to eliminate the problem of packages traveling along a conveyor belt too quickly and not being able to be clearly decoded. Both the display and the user-specified intervals help to avoid this problem.

6. Claims 17 and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bjorner et al (6,236,735) in view of Laser (5,773,808).

Bjorner et al's teachings are discussed above.

Bjorner et al fails to specifically teach using a metal oxide semiconductor image sensor.

Laser teaches the following in regards to claims 17 and 45:

"Suitable images sensors include charged coupled device ("CCD") sensors, charged injection device ("CID") sensors, complementary metal oxide semiconductor ("CMOS" sensors, or other 1-D (linear) or 2-D (area) image sensors. The image sensor 29 is designed for receiving an image from the beam 26a and converting the image into an electric signal 30. Similarly, the image sensor 31 is designed for receiving an image from the beam 26b and converting the image into an electric signal 32." (Col. 6, lines 12-20).

In view of Laser's teaching, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to use a metal oxide semiconductor image sensor as the image sensor used in Bjorner et al's two camera system for



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locating and storing indicia on conveyed items. Semiconductor sensors are well known in the art and one would be motivated to use one for this reason.

***Allowable Subject Matter***

7. Claims 10-13 and 38-41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's for allowance: Although Bjorner et al and Moed et al in combination teach method of capturing multiple images of packages moving along a conveyer belt, the above identified prior art of record, taken alone, or in combination with any other prior art, fails to teach or fairly suggest the specific features of the present claimed invention, such as capturing at least one of the multiple images via an external camera including configuring the image system to receive an input from the external camera via switching to the external camera in response to user-specified criteria, the user-specified criteria including an image-capture-quantity and a time parameter, and capturing at least one of the multiple images via an external camera further including configuring the image system to receive an input from an internal image sensor via switching to the internal image sensor in response to the user-specified criteria. Moreover, one of ordinary skill in the art would not have been motivated to come to the claimed invention.

8. Claims 18-28 are allowed.

The following is an examiner's for allowance: Although Bjorner et al and Moed et al in combination teach method of capturing multiple images of packages moving along

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a conveyer belt, the above identified prior art of record, taken alone, or in combination with any other prior art, fails to teach or fairly suggest the specific features of the present claimed invention. Specifically prior art fails to teach an article of manufacture comprising; a machine-readable medium that provides instructions, including instructions to: process a received trigger signal communicated from a triggering device in response to a location of a component in an automated identification system; capture multiple images of at least a portion of a surface of the component in response to the received trigger signal, the multiple images comprising a series of images including a first image and at least one subsequent image; store the multiple images in a memory; and process the multiple images to identify and read a symbol code, if any, contained within at least one or a combination of two or more of the multiple images. Moreover, one of ordinary skill in the art would not have been motivated to come to the claimed invention.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Response to Arguments***

9. Applicant's arguments filed June 2, 2003 with respect to claims 1-17 have been considered but are moot in view of the new ground(s) of rejection. Claims 10-13 and 38-41 are now objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base

claim and any intervening claim. Additionally, claims 18-28 are in condition for allowance. The applicant argues that not all of the elements of the amended claimed invention are taught by prior art, however fails to specifically state what is not taught.

The examiner believes that Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. Moreover, given its broadest reasonable interpretation of the instant claims, Steiner, Cheong et al, Fitzgerald et al, Soultanian, taken alone or in combination, meets the claimed invention.

### ***Conclusion***

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

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11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Allyson Sanders* whose telephone number is (703) 305-5779. The examiner can normally be reached between the hours of 7:30AM to 4:00PM Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee, can be reached on (703) 305-3503. The fax phone number for this Group is (703) 308-7722, (703) 308-7724, or (703) 308-7382.


Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [[allyson.sanders@uspto.gov](mailto:allyson.sanders@uspto.gov)].

*All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.*

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

Allyson Sanders  
Patent Examiner  
Art Unit 2876  
August 6, 2003



MICHAEL G. LEE  
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